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ABSTRACT

Presented are results of the tracking of the 1985-86 cohort of preschool alumni of the Kamehameha Schools/Bishop Estate (KS/BE) as they entered and completed kindergarten in the 1986-87 school year. During the 1985-86 program year, 100 preschoolers were enrolled in the KS/BE Pre-kindergarten Education Program at five sites. An additional group of 34 children was tested during the 1985-86 school year for purposes of comparison. Department of Education computer tapes for the comparison group members and 92 KS/BE alumni were obtained. Tapes contained fall and spring achievement test scores for the Peabody Picture Vocabulary Test-Revised and the Missouri Kindergarten Inventory of Developmental Skills (KIDS). Results from number concepts and auditory, paper/pencil, language, visual, and gross motor skills subtests of the KIDS are reported. Results indicate that KS/BE preschools clearly helped Hawaiian children achieve higher test scores when they entered kindergarten and when they completed their kindergarten year in the public schools. However, even though they outperformed their fellow kindergarteners, they remained at a considerable disadvantage relative to children of their age nationally. How long the beneficial effects of KS/BE preschools will last remains to be seen. Data is displayed in two tables and nine figures. (RH)

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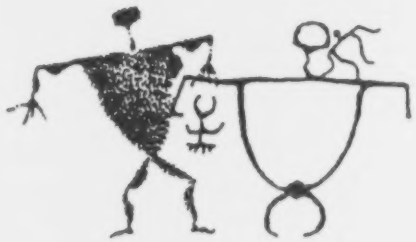

DO KS/BE PRESCHOOLS HELP HAWAIIAN CHILDREN SUCCEED IN THE PUBLIC SCHOOLS?

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DO KS/BE PRESCHOOLS HELP HAWAIIAN CHILDREN SUCCEED IN THE PUBLIC SCHOOLS?

Background

Previous research (Roberts & Heath, 1987) revealed that Hawaiian children who attended two KS/BE preschools scored significantly higher on educational achievement tests, administered at the end of the preschool year, than comparable randomly selected, Hawaiian children who did not attend these schools. These KS/BE preschoolers attained higher scores than comparison-group children, even when the comparison-group children attended other preschools.

The findings reported here are based on the 1985-86 school-year cohort of KS/BE preschoolers. This cohort was the first for which a systematic program evaluation plan (Heath & Plett, 1985) was in place. The 1986-87 version of the plan provides for the longitudinal tracking of the children served by KS/BE preschoolers as they proceed through their schooling. Computer tapes made available by the Hawaii State Department of Education[1] permit us to follow the progress of these children in the public school system. As noted in the 1987-88 program evaluation plan (Heath, Plett, & Tibbetts, 1987),

> In many respects, the effectiveness of the preschool programs now under development in PREP can only be evaluated by studying the educational success of the children they serve in later grades. To provide a foundation for such a study it is necessary to establish practical methods of tracking our preschool graduates as they progress through their school years. It is to be expected that most of these preschool alumni will attend either public preschools in the State of Hawaii or Kamehameha Schools. Those attending Kamehameha Schools can be traced internally through our own ID numbers and the computerized student record system (OSIRIS) now being implemented. Those attending public school in Hawaii can be traced through the Student Information System (S.I.S.) of the Department of Education. These data systems will yield information about the educational achievement of students as well as other data critical to longitudinal research (retention, special-education status, etc.). This project will begin this work by establishing the necessary cooperative links with both DOE and KS/BE data sources and by creating a first-generation database. This database will be available to researchers and to program developers for research and program planning purposes. (p. 86)

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[1]We are grateful for the assistance of Dr. Paul Brandon of KS/BE Program Evaluation and Planning in gaining access to these data.

This report presents the results of the tracking of the 1985-86 cohort of KS/BE preschool alumni as they entered and completed kindergarten in the 1986-87 school year.

Methods

During the 1985-86 program year, 100 preschoolers were enrolled in the Pre-kindergarten Education Program (PREP) at five sites[2]. For the purpose of a comparison study (Roberts & Heath, 1987), an additional group of 34 children was tested during the 1985-86 program year[3]. A Department of Education computer tape containing data on children entering DOE kindergarten in the fall of 1986 was searched for the records of these 134 children. The attendance of these 134 children in DOE, KES, and other private schools is given in Table 1. We were unable to locate the kindergarten records of eight of the KS/BE preschool alumni.

The DOE computer tape contained fall and spring achievement test scores for the Peabody Picture Vocabulary Test-Revised (PPVT-R) (Dunn & Dunn, 1981) and the Missouri Kindergarten Inventory of Developmental Skills (K.I.D.S) (Ferguson & Carlson, 1978). The PPVT-R is a test of vocabulary. Results from six subtests of the Missouri K.I.D.S. are reported here. These subtests are:

Number Concepts,	Language Skills,
Auditory Skills,	Visual Skills, and
Paper/Pencil Skills,	Gross Motor Skills.

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[2]These five sites included Ulupono (located on the Kamehameha Schools' campus), Nanaikapono, Nanakuli, Waihee, and Anahola. A fuller description of this pre-school cohort, including results of hearing screening, pre and post achievement testing, and parent interviews, is given in Summary of program evaluation results: 1985-1986 school year Pre-Kindergarten Education Program (Heath, Plett, & Tibbetts, 1986).

[3]In the 1985-86 school year, children attending PREP preschools at Nanaikapono and Kupulani sites (experimental group) were randomly selected from a pool of applicants. For the purposes of a comparison study, children (comparison group; n=34) not selected for these two sites were administered criterion tests. A fuller description of the results of this comparison study is given in The Effects of Preschool Education on Four-Year-Old Hawaiian Children (Roberts & Heath, 1987).

Table 1 Attendance of 1985-86 KS/BE Preschool Alumni in Kindergarten, 1986-87

	KS/BE Alumni	DOE	KES	Private	Unmatched*
All KS/BE Preschools	100	81	7	4	8
Ulupono	20	13	3	1	3
Nanaikapono	20	17	2	0	1
Nanakuli	20	18	2	0	0
Waihee	20	16	0	2	2
Anahola	20	17	0	1	2**
Comparison Group	34	34	0	0	0

* Eight of the PREP alumni could not be found in the DOE records.

** One student was held back in preschool and did not enter kindergarten

Results

Percentiles equivalent to median test scores are presented in Table 2. Results for the PPVT-R are given only for the fall testing[4]. Percentiles equivalent to the national norms are available only for the PPVT-R; percentiles equivalent to the State norms are given for the fall PPVT-R and the fall and spring subtests of the Missouri K.I.D.S.[5] The percentiles given in Table 2 are displayed graphically in Figures 1 and 2. The distribution of fall 1986 kindergarten PPVT-R test scores and the fall and spring Missouri K.I.D.S. subtest scores are given in Figures 3 through 9.

Some of the major findings that can be derived from these data include:

1. Hawaiian children who attend KS/BE preschools begin their educational careers with a significant educational advantage over those who do not.

[4]Only those kindergarten children identified as having **considerable need** (a score of two or more years below chronological age in language development as measured by the PPVT-R) or **moderate need** (1-1.9 years below chronological age) during the fall testing were administered the PPVT-R in the spring.

[5]Spring achievement test results of the Gross Motor Skills subtest of the Missouri K.I.D.S. are not available.

2. KS/BE preschool alumni achieve higher test scores upon entering DOE kindergarten than Hawaiian children statewide.

3. KS/BE preschool alumni achieve higher test scores upon entering DOE kindergarten than the total population of children (including non-Hawaiians) statewide.

4. KS/BE preschool alumni maintain this pattern of superior achievement (relative to other children in the state) at the end of the kindergarten school year.

5. On the national norms of a standardized vocabulary test (PPVT-R) KS/BE preschool alumni children entered preschool at the 11th percentile. They left preschool at the 34th percentile. They entered kindergarten at the 30th percentile.

Discussion

The answer to the question posed in the title of this report is "Yes." KS/BE preschools clearly do help Hawaiian children achieve higher test scores when they **enter** kindergarten and when they **complete** their kindergarten year in the public schools. However, even though they outperform their fellow kindergartners (both Hawaiian and non-Hawaiian) in this State, they are still at a considerable disadvantage relative to children of their age nationally. It is too early to tell if, or how long, the beneficial effects of KS/BE preschools will last as these children proceed through elementary and secondary schooling.

We now have evidence that KS/BE preschools give Hawaiian children an educational advantage over other children in the State. However, the challenge to develop preschools that put these children on a par with national standards has yet to be met.

Table 2 Percentiles equivalent to median test scores[1] of 1986-87 school year kindergarten children

		PPVT-R[2]		MISSOURI K.I.D.S.					
				NUMBER CONCEPTS	AUDITORY SKILLS	PAPER/PENCIL SKILLS	LANGUAGE SKILLS	VISUAL SKILLS	GROSS MOTOR SKILLS
	N	NATIONAL NORMS	STATE NORMS	STATE NORMS					
FALL									
KS/BE Preschool Alumni	80	30	62	70	59	54	64	53	49
Total DOE	13,200	19	50	50	50	50	50	50	50
DOE Hawaiian[3]	2,870	13	42	44	44	41	43	40	54
DOE Non-Hawaiian[3]	9,300	21	54	52	52	54	52	53	49
Comparison Group[4]	34	12	39	36	42	34	45	44	35
SPRING									
KS/BE Preschool Alumni	80	NA	NA	61	56	44	54	55	NA
Total DOE	13,200	NA	NA	50	50	50	50	50	NA
DOE Hawaiian[3]	2,870	NA	NA	47	49	44	45	44	NA
DOE Non-Hawaiian[3]	9,300	NA	NA	52	51	53	53	52	NA
Comparison Group[4]	34	NA	NA	28	33	22	40	47	NA

1 PPVT-R & Missouri Kindergarten Inventory of Developmental Skills

2 Average age at PPVT-R 5 years 2 months

3 Ethnicity data are missing for approximately 1,200 DOE kindergartners

4 In the 1985-86 school year children attending PREP preschools at Nanaikapono and Nanakuli sites (experimental group) were randomly selected from a pool of applicants. For the purposes of a comparison study, children (control group) not selected for these two sites were administered criterion tests.

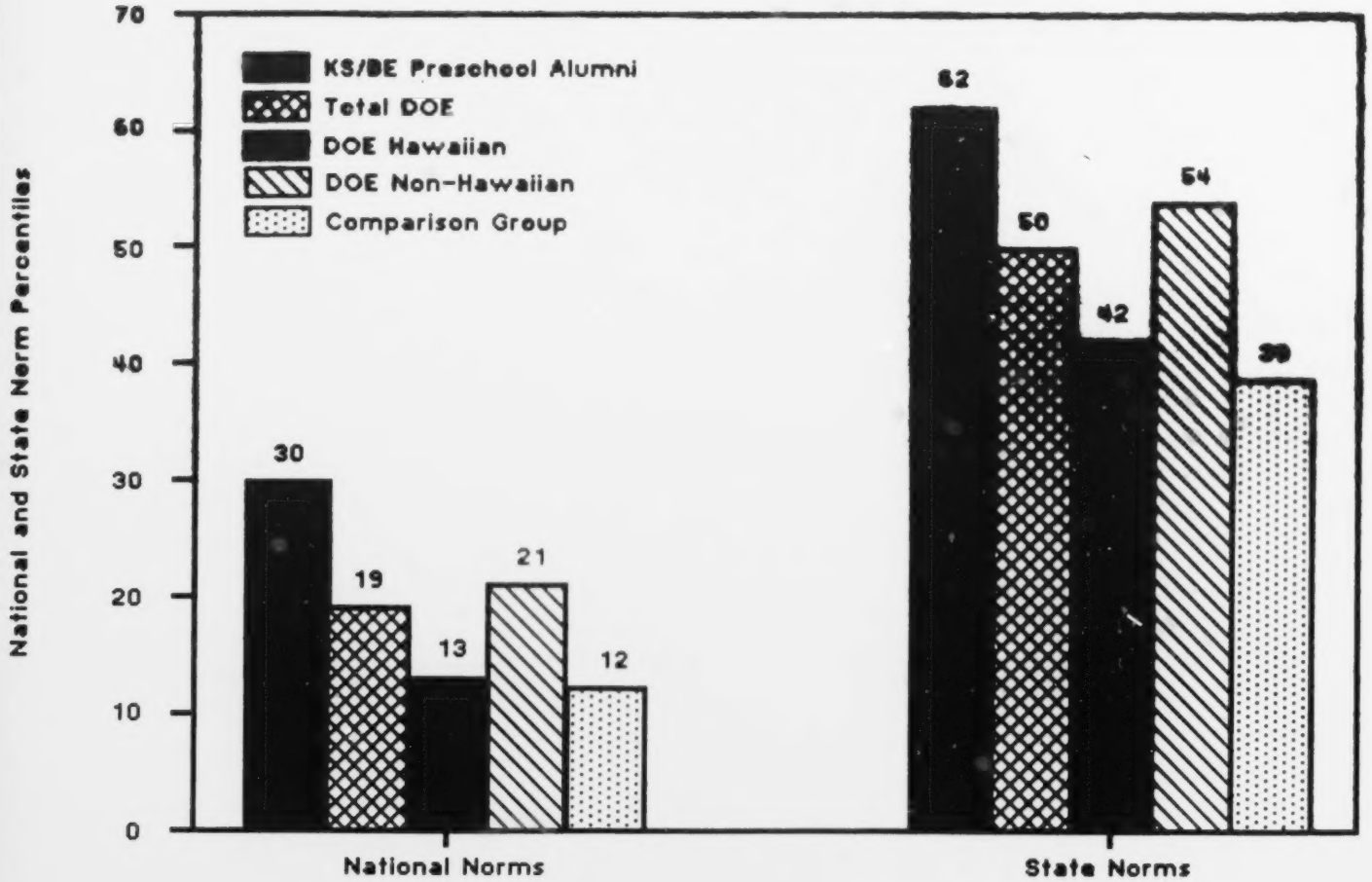

Figure 1 National and state percentiles equivalent to median PPVT-R test scores of Fall 1986-87 school year kindergarten children

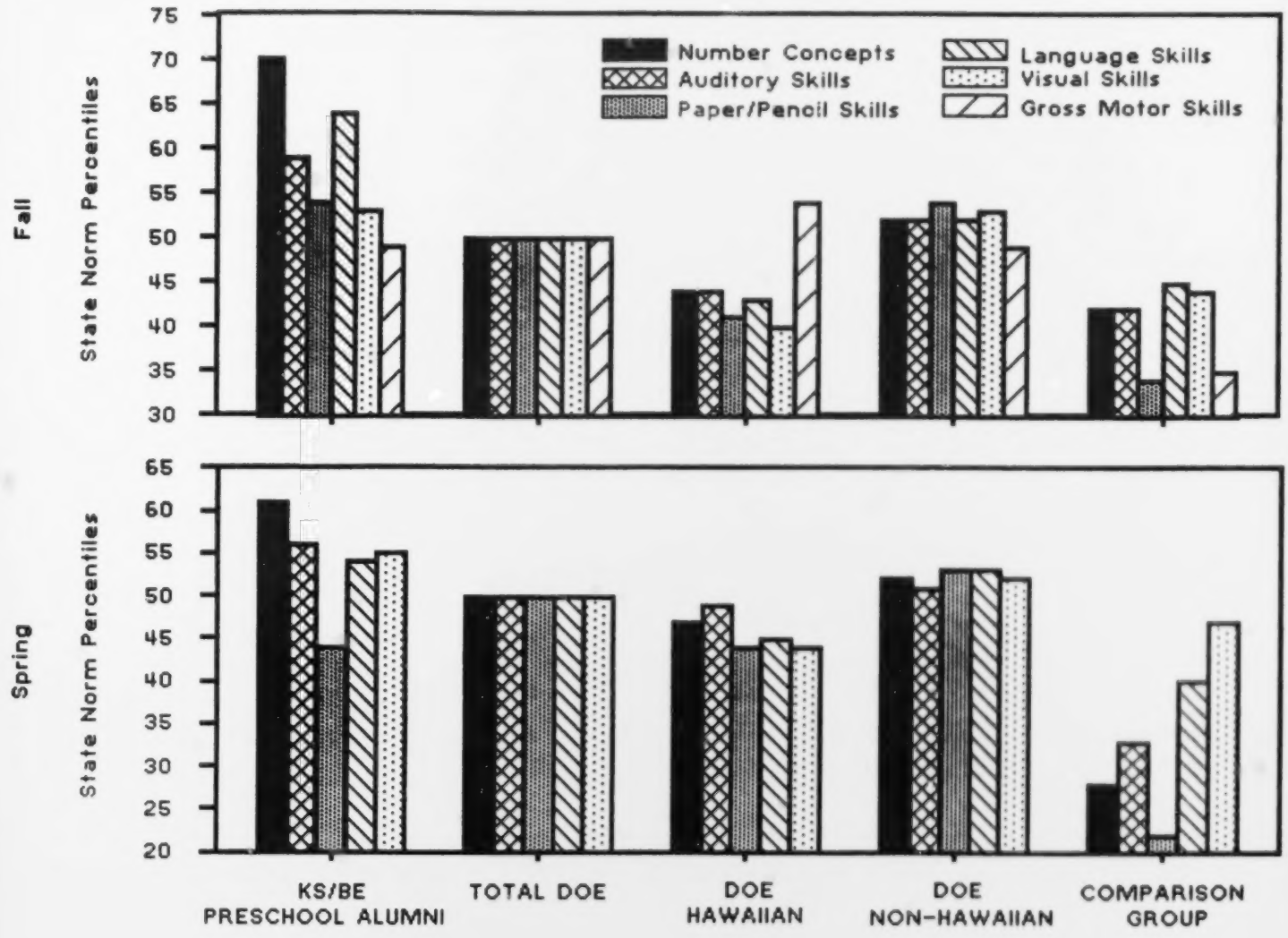

Figure 2 State percentiles equivalent to median Missouri K.I.D.S. test scores of 1986-87 school year kindergarten children

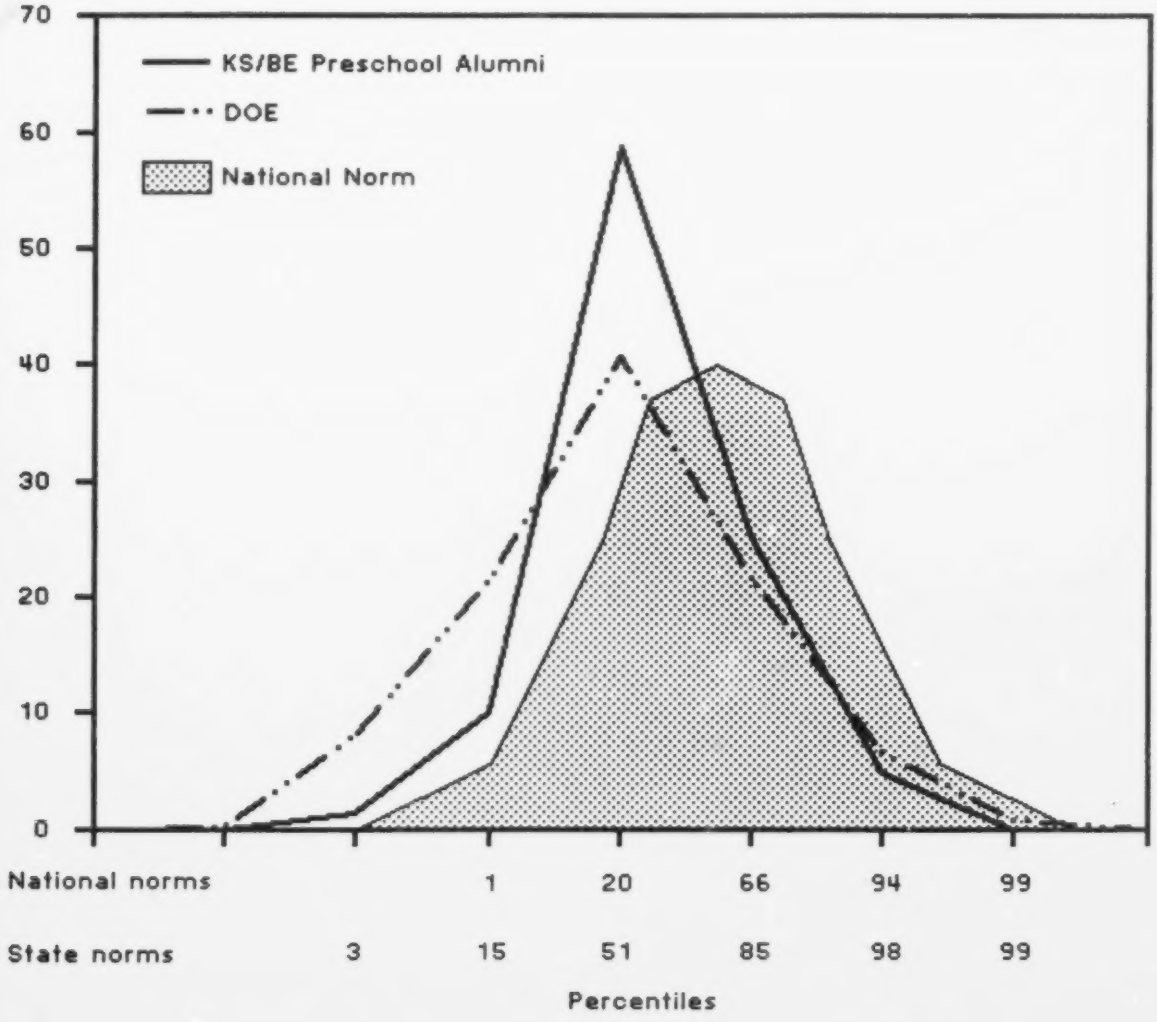

Figure 3 Distributiion of entering kindergarten Fall 1986 PPVT-R test scores of KS/BE preschool alumni, State DOE, and national norm populations

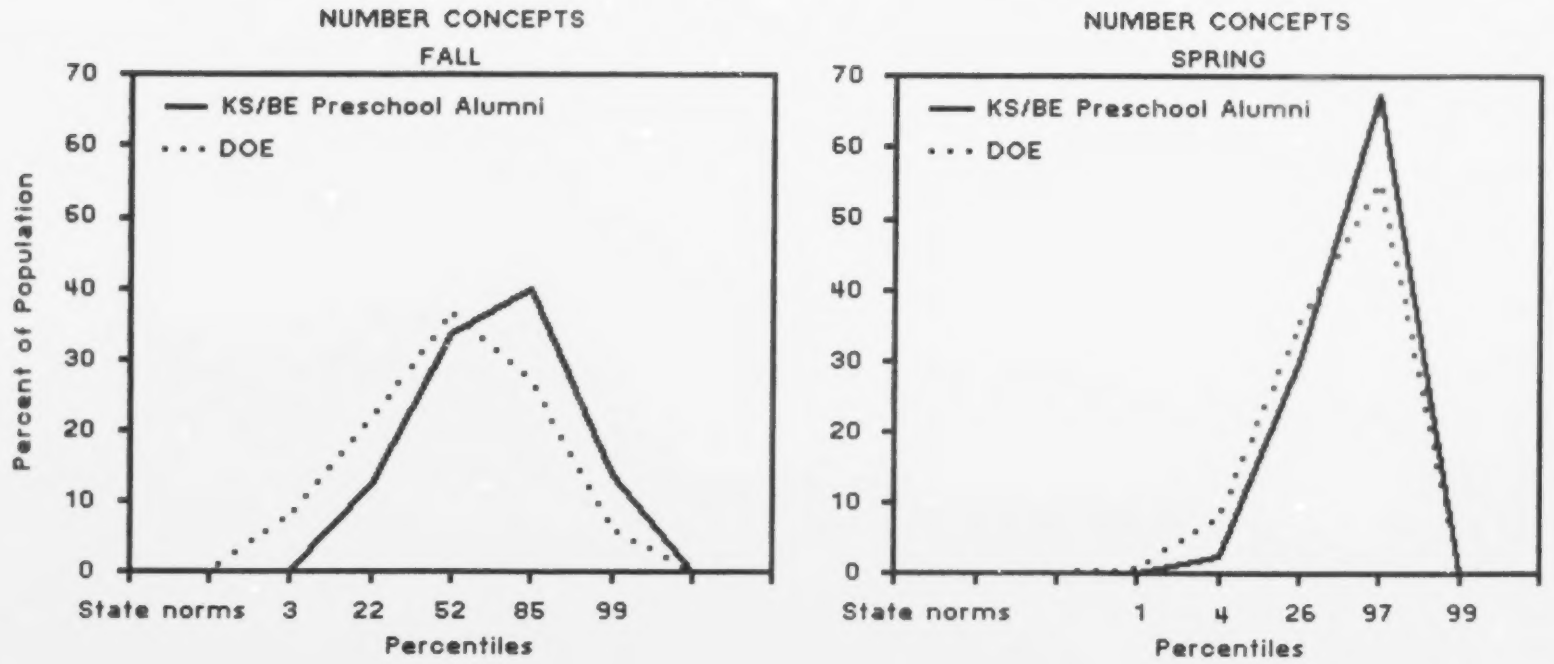

Figure 4 Distribution of kindergarten Fall 1986 and Spring 1987 Missouri K.I.D.S. Number Concepts scores of KS/BE preschool alumni and State DOE populations

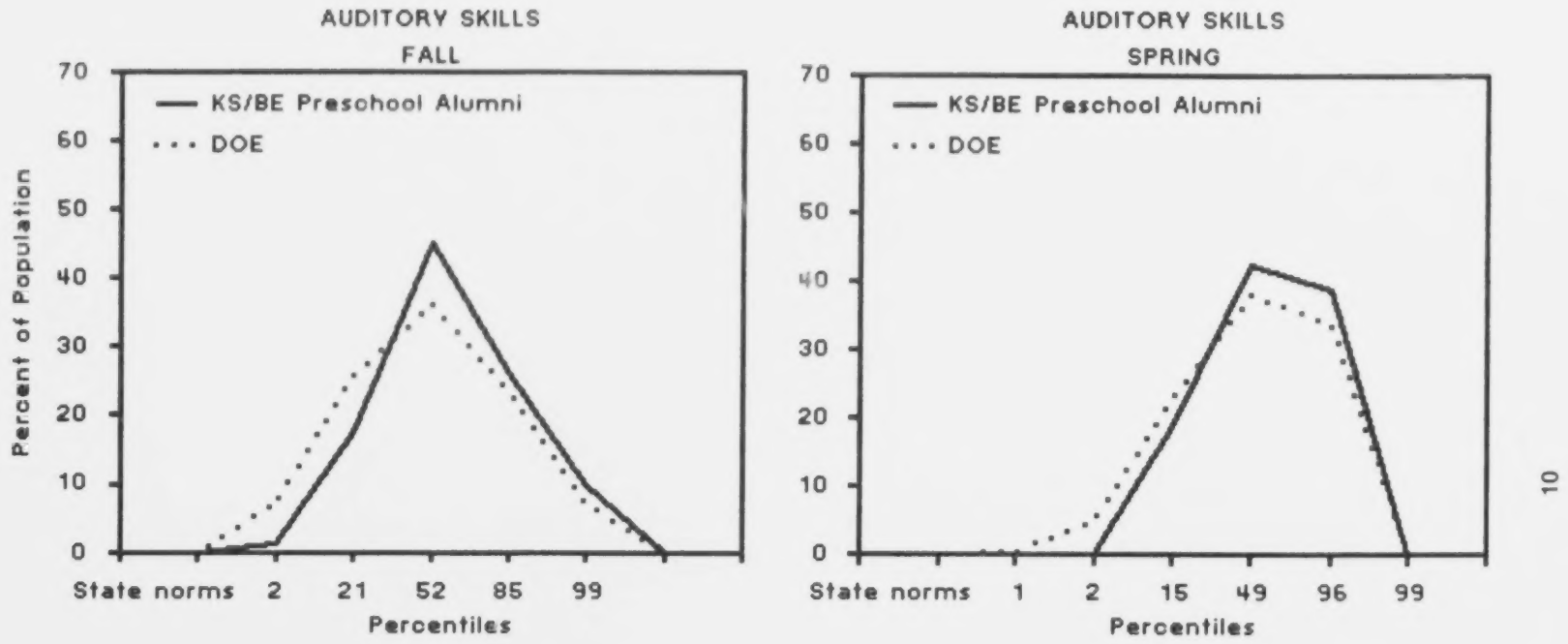

Figure 5 Distribution of kindergarten Fall 1986 and Spring 1987 Missouri K.I.D.S. Auditory Skills scores of KS/BE preschool alumni and State DOE populations

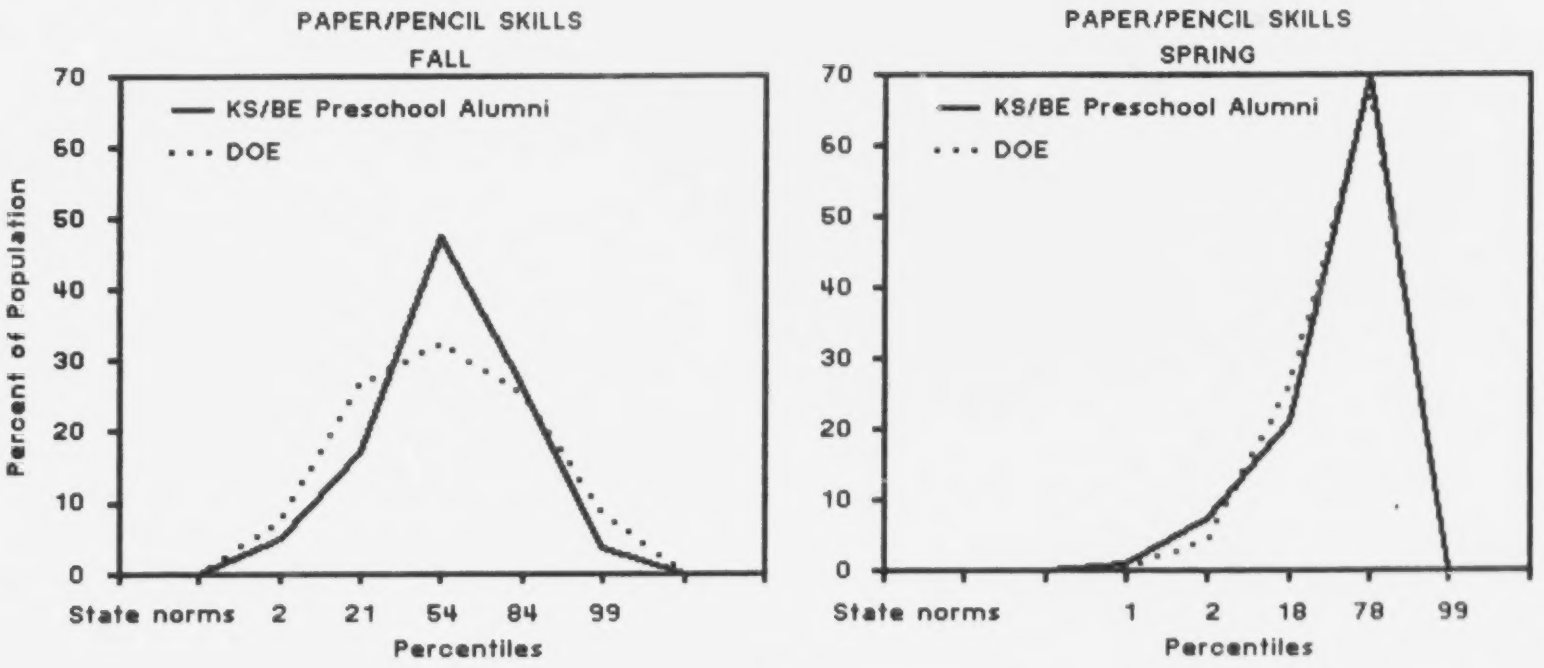

Figure 6 Distribution of kindergarten Fall 1986 and Spring 1987 Missouri K.I.D.S. Paper/Pencil Skills scores of KS/BE preschool alumni and State DOE populations

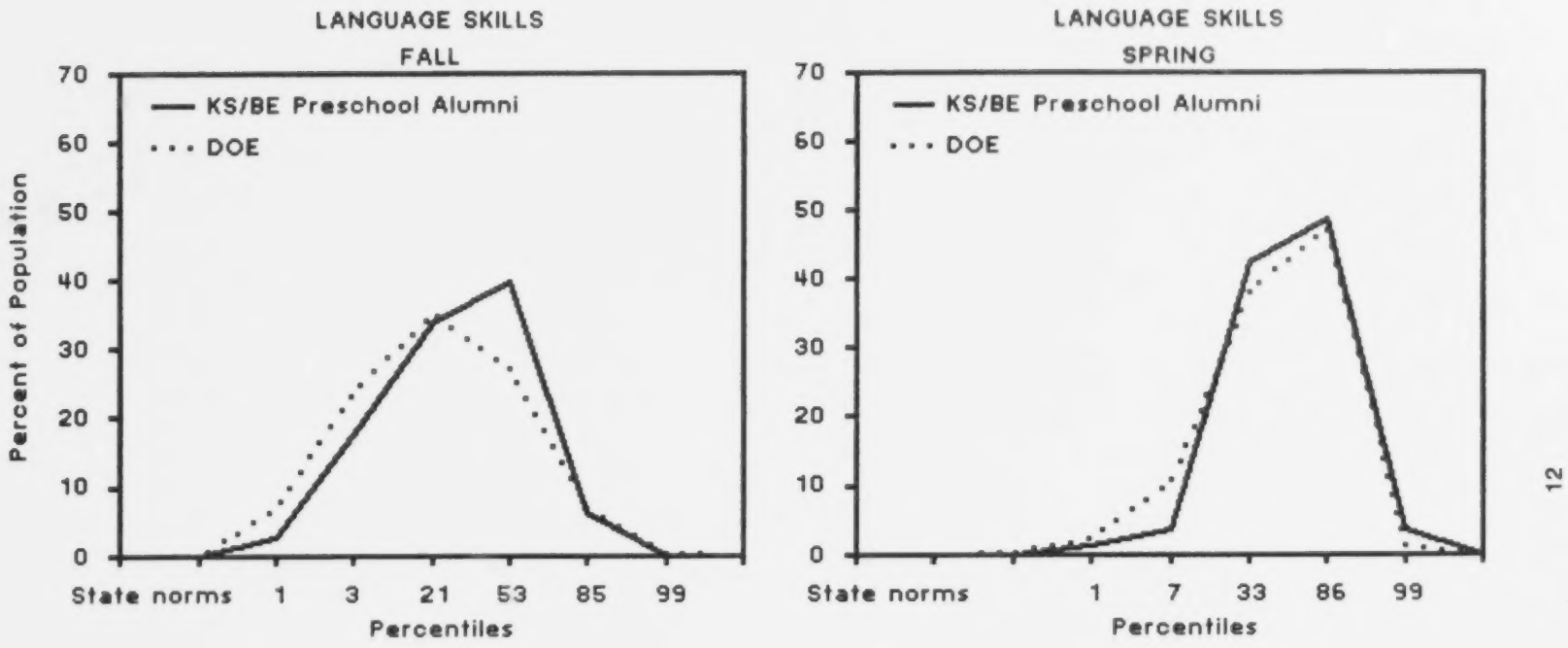

Figure 7 Distribution of kindergarten Fall 1986 and Spring 1987 Missouri K.I.D.S. Language Skills scores of KS/BE preschool alumni and State DOE populations

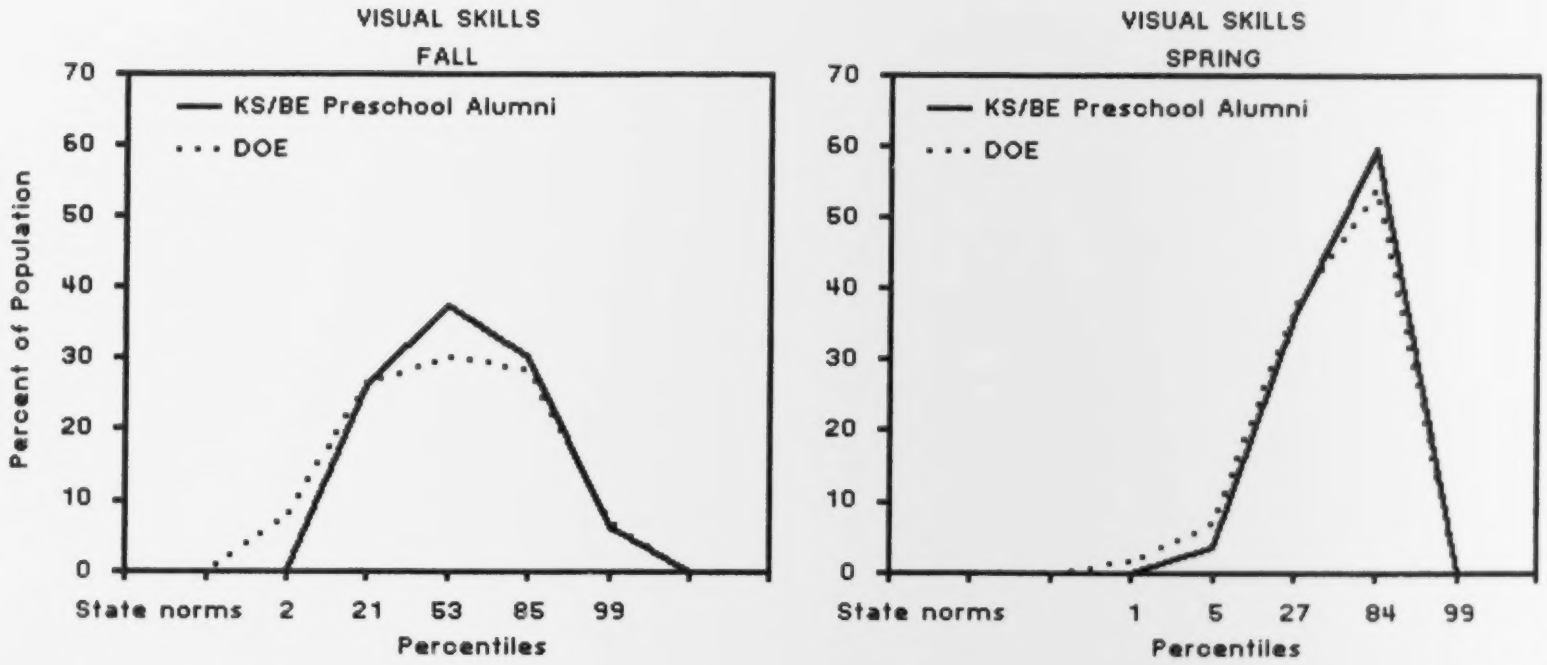

Figure 8 Distribution of kindergarten Fall 1986 and Spring 1987 Missouri K.I.D.S. Visual Skills scores of KS/BE preschool alumni and State DOE populations

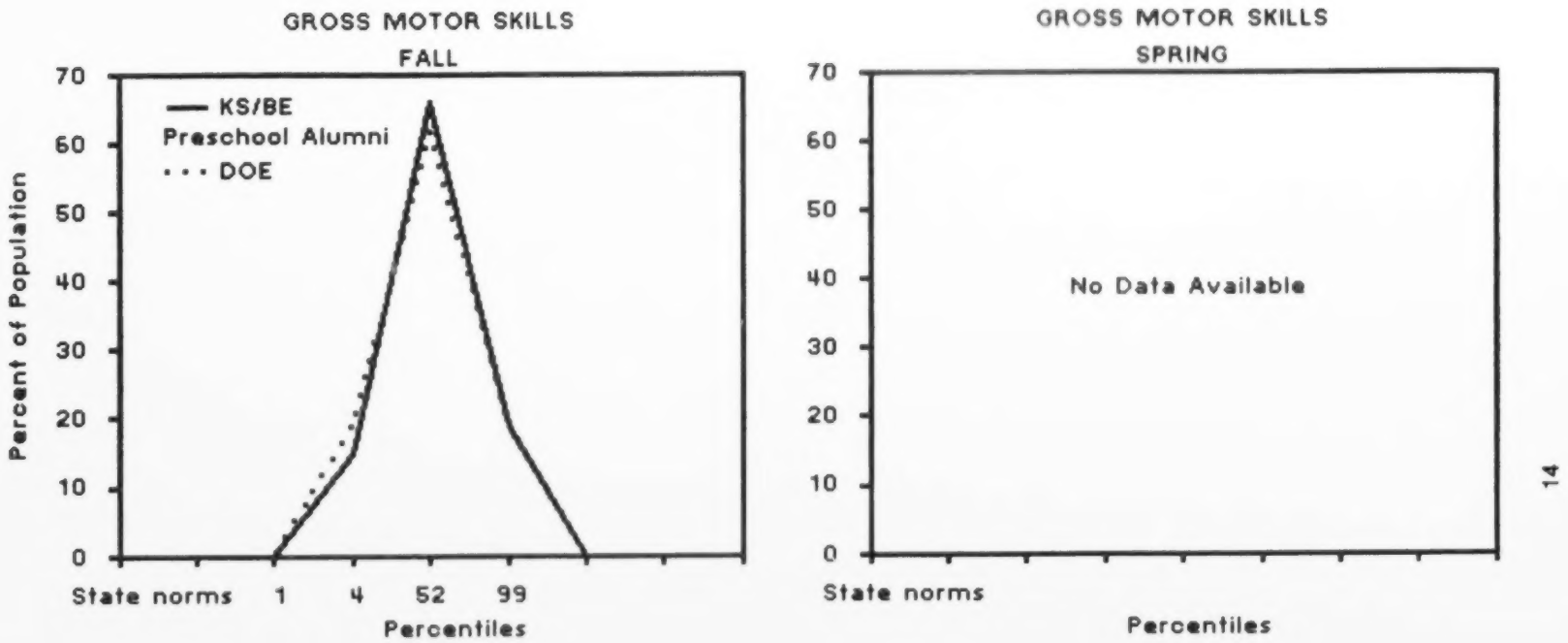

Figure 9 Distribution of kindergarten Fall 1986 and Spring 1987 Missouri K.I.D.S. Motor Skills scores of KS/BE preschool alumni and State DOE populations

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